REMARKS

Claims 1-16, 18, 20-22 and 24-31 are pending in this application, with claims 1, 8, 15, 18, 20, 22, 24, 26, 27 and 29-31 being independent. Independent claims 30 and 31 have been added, claims 15, 18, 20, 22, 24, 26, 27 and 29 have been amended, claims 17, 19 and 23 have been canceled, and claims 1-14 have been withdrawn from consideration.

Initially, applicant thanks the Examiner for the personal interview that was granted by the Examiner and conducted on November 18, 2004. The substance of the interview is set forth in the remarks below.

Applicant acknowledges with appreciation the Examiner's allowance of claims 24-29. As discussed at the interview, independent claim 24 has been amended for clarity and to eliminate the recitation of generating plasma between the coil electrode and the first and second electrodes; independent claims 26 and 27 have each been amended to recite that the plasma is generated in a region between the radial slot antenna and the first and second electrodes; and independent claim 29 has been amended to recite generating the plasma in a region between the first through fifth electrodes and the coil electrode by applying a high-frequency power to the coil electrode using the sixth high-power source. Applicant believes that these amendments do not impact the allowability of claims 24-29.

Claims 15, 16, 18 and 20-22 have been rejected under section 112, first and second paragraphs. As discussed at the interview, each of independent claims 15, 18, 20 and 22 has been amended to eliminate the references to ICP power. As these amendments are believed to address the Examiner's concerns, applicant requests reconsideration and withdrawal of these rejections.

In addition, claims 15, 18, 20 and 22 have been amended for clarity and to recite that plasma is generated by applying a high-frequency power to the coil electrode and to eliminate the requirement that the plasma be generated between the coil electrode and other electrodes. Claims 15, 20 and 22 also have been amended to eliminate the requirement that the plasma be wider than the upper electrode, and claim 18 has been amended to eliminate the requirement that the plasma be generated outside edge portions of the substrate.

As discussed at the interview, applying one high-frequency power to a coil electrode to generate plasma, and applying another high-frequency power to another electrode to produce an AC field between the coil electrode and the other electrode, as recited in each of claims 15, 18, 20 and 22, permits much finer control of an etching process using the plasma. In particular, a high voltage may be used on the coil electrode to produce high plasma density, while fine control of the bias power applied to the other electrode may be necessary depending on the situation. For example, a lower voltage may be used on the other electrode in order to avoid having the AC field impart too much energy to the plasma and potentially damage material being etched by the plasma.

Claims 15, 16, 18 and 20-22 have been rejected as being unpatentable over Susko in view of Sill and Dible. Applicant requests reconsideration and withdrawal of this rejection because neither Susko, Sill, Dible, nor any proper combination of the three describes or suggests applying one high-frequency voltage to a coil electrode to generate plasma, and applying another high-frequency voltage to another electrode to control the plasma, as recited in each of claims 15, 16, 18 and 20-22.

According to the Examiner, Susko shows all elements of the claims with the exception of using a coil electrode and supplying a reaction gas at a reduced pressure, and one of skill in the art would have been motivated to supply a reaction gas under a reduced pressure, as shown by Sill, and to employ a coil electrode, as shown by Dible. With respect to Dible, the Examiner's position is that the coil electrode would have been employed "because it is one of the most popular upper electrode used in the art of plasma etching." As discussed at the interview, applicant strongly disagrees with the Examiner's assertion that one of ordinary skill in the art would have been motivated to replace Susko's upper electrode with a coil electrode due to the popularity of coil electrodes.

Moreover, as also discussed at the interview, replacing Susko's upper electrode with a coil electrode would not result in the claimed subject matter. In particular, in Susko's system, the upper electrode is grounded and the lower electrodes perform both the function of plasma generation and the function of generating a bias voltage to control movement of the plasma. As

such, even if one were to replace Susko's upper electrode with a coil electrode, the resulting system would merely include a grounded coil electrode. Nothing in Susko, Sill or Dible would have led one or ordinary skill in the art to add an additional high-frequency power supply and to connect that power supply to the coil electrode to produce the arrangement recited in the claims.

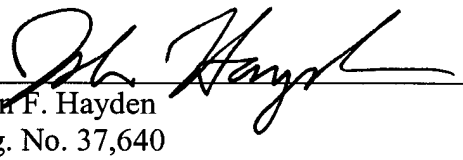
For at least these reasons, the rejection should be withdrawn.

New claims 30 and 31 are similar in scope to claim 15 and recite that the substrate includes a thin film transistor having an interlayer insulating film that is etched to form a contact hole (claim 30) or a conductive film that is etched to form a gate electrode (claim 31). Claims 30 and 31 are allowable for at least the reasons discussed above with respect to claim 15.

Applicant submits that all claims are in condition for allowance.

Enclosed is a $520 check for excess claim fees ($400) and a for the Petition for Extension of Time fee ($120). Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,



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